UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,510	04/30/2001	James A. Bisher JR.	A-6684	2086

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EXAMINER
SHANG, ANNAN Q

ART UNIT	PAPER NUMBER
2623	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/09/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/09/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOmail@sciatl.com

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	09/845,510	BISHER ET AL.
	Examiner	**Art Unit**	
	Annan Q. Shang	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>15 November 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-55</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-55</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office

action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-2, 14-24 and 36-55 are rejected under 35 U.S.C. 102(e) as being

anticipated by **Dyer et al (6,305,019).**

As to claim 1, note the **Dyer** reference figures 1-3 and 6, discloses system for

interactively distributing information services having a remote session manager and

further discloses a method for providing a multicast of a packet, which is included in a

transport stream, in a digital network, the method comprising:

Receiving at an input port (Remote Video Session Manager 'RSM' 106 or 616)

the transport stream having a plurality of packets included therein and a plurality of PID

streams (figs.1, 2, 6, col.4, line 31-59);

Determining (RSM-106) whether a given packet of the plurality of packets is a

multicast packet or a unicast packet, wherein a multicast packet is designated for

transmission from a plurality of modulators and a unicast packet is designated for

transmission from only one modulator of the plurality of modulators (col.4, lines 12-26

and line 31-59, col.6, line 37-col.7, line 29, line 48+ and col.8, lines 27-67);

Transmitting and modulating the given packet or a subset of the plurality of PID

streams from more than one modulator of the plurality of modulators when the given

packet is a multicast packet; and transmitting and modulating the given packet from only

one modulator of the plurality of modulators when the given packet is a unicast packet

(col.4, lines 12-26 and line 31-59, col.6, line 37-col.7, line 29, line 48+, col.8, lines 27-67

and col.9, line 39-col.10, line 1+).

As to claims 2, Dyer further discloses identifying packets of the plurality of

packets that are to be transmitted from at least one modulator; and associating a

modulator identifier with each identified packet, wherein the modulator identifier

identifies each modulator from which the packet is to be transmitted (col.7, line 48-col.8,

line 67, col.9, line 26-col.10, line 25 and col.11, line 43-col.12, line 26).

As to claim 14, Limb further discloses where at least one modulator of the

plurality of modulators is a radio frequency modulator (col.8, line 27-67 and col.9, line

26-col.10, line 1+)

As to claim 15, Dyer further discloses where the radio frequency modulator is a

QAM modulator (col.8, line 27-67 and col.9, line 26-col.10, line 1+).

As to claim 16, Dyer further discloses wherein the packets of the transport

stream include packets conforming to MPEG protocols, and the given packet has a first

PID when it is received and a second PID when it is transmitted, wherein the second

PID is different from the first PID (col.7, lines 48-67).

As to claim 17, Dyer further discloses receiving a second transport stream at a

second input port, the second transport stream including a plurality of packets;

extracting from the first and second transport streams each packet that is to be

transmitted from at least one modulator of the plurality of modulators; and sorting

extracted packets into a plurality of groups, the plurality of groups including a

multicast group that includes multicast packets from the first and second transport

streams and at least one unicast group that includes unicast packets from the first and

second transport streams (col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15,

line 42-col.16, line 1+).

As to claim 18, Dyer further discloses associating a modulator identifier with each

packet of the multicast coup, wherein the modulator identifier identifies each modulator

of the plurality of modulators from which the associated packet is transmitted (col.8,

lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

As to claim 19, Dyer further discloses wherein the at least one unicast group is a

plurality of unicast groups, each unicast group is associated with a given modulator of

the plurality of modulators, and further including the step of: associating a modulator

identifier with each packet of each unicast group, wherein the modulator identifier

identifies the given modulator of the plurality of modulators from which the associated

packet is transmitted (col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-

col.16, line 1+).

As to claim 20, Dyer further discloses wherein the first and second transport

streams include packets that conform to MPEG protocols (col.7, lines 48-67).

As to claim 21, Dyer further discloses wherein at least one packet of the first transport stream has a first PID value associated therewith and at least one packet of the second transport stream has a second PID value associated therewith, and wherein the first Pm value and the second Pm value are the same value (col.7, lines 48-67,col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

As to claim 22, Dyer further discloses wherein when a packet conforming to MPEG protocols is received the packet has a first PID value associated therewith, and the packet has a second PID value associated therewith when the packet is transmitted and when the packet is a multicast packet (col.7, lines 48-67,col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

As to claim 23, the claimed "An apparatus in a digital network that receives a transport stream and transmits a plurality of transport streams, the apparatus comprising..." is composed of the same structural elements that were discussed with respect to the rejection of claim 1.

Claim 24 is met as previously discussed with respect to claim 2.

Claim 36 is met as previously discussed with respect to claim 14.

Claim 37 is met as previously discussed with respect to claim 15.

Claim 38 is met as previously discussed with respect to claim 16.

Claim 39 is met as previously discussed with respect to claim 17.

Claim 40 is met as previously discussed with respect to claim 18.

Claim 41 is met as previously discussed with respect to claim 19.

Claim 42 is met as previously discussed with respect to claim 20.

Claim 43 is met as previously discussed with respect to claim 21.

Claim 44 is met as previously discussed with respect to claim 22.

As to claim 45, the claimed "An apparatus in a digital network that receives a transport stream and transmits a plurality of transport streams, the apparatus comprising..." is composed of the same structural elements that were discussed with respect to the rejection of claim 1.

As to claims 46-47, Dyer further discloses where the plurality of modulators includes a first modulator and a second modulator, the first modulator transmitting a first plurality of the plurality of PID streams therefrom, the second modulator transmitting a second plurality of the plurality of PID streams therefrom, and the first plurality of PID streams is different than the second plurality of PID streams, wherein the first plurality of PID streams includes a given PID stream and the second plurality of Pm streams includes the given PID stream (col.7, lines 48-67, col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

As to claims 48-49, Dyer further discloses where the given PID stream of the first plurality of PID streams includes a first plurality of packets, the given Pm stream of the second plurality of PID streams includes a second plurality of packets, and the first and second plurality of PID streams are the same and where the plurality of packets of the given PID stream have a common PID value and the plurality of packets had a different common PID value when received in the input port (col.7, lines 48-67, col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

As to claim 50, Dyer further discloses where the received transport stream includes a given PID stream that consists of a plurality of packets having a first common PID value associated therewith, the plurality of packets have a second common PID value associated therewith when they are modulated and transmitted from at least one modulator of the plurality of the modulators (col.7, lines 48-67, col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+)

As to claims 51-52, Dyer further discloses where the plurality of PID streams received in the input port includes a first given PID stream having a plurality of packets with a first common PID value associated and further includes a second input port adapted to receive a second transport stream having a second plurality of PID streams included therein, the second plurality of received PD streams includes a second given PID stream having a plurality of packets with a second common PID value associated therewith; and wherein at least one modulator of the plurality of modulators modulates and transmits there from the plurality of packets of the first given PID stream and the plurality of packets of the second given PID stream, where the plurality of packets of the second given PID stream have a third common PID values associated therewith when the plurality of packets are transmitted, and second and third common PID values are different (col.7, lines 48-67, col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

As to claim 53, Dyer further discloses wherein the at least one modulator is a plurality of modulators (col.8, lines 27-67, col.9, line 26-col.10, line 1+ and col.15, line 42-col.16, line 1+).

Claim 54 is met as previously discussed with respect to claim 14.

Claim 55 is met as previously discussed with respect to claim 15.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 3-13 and 25-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Dyer et al (6,305,019)** in view of **Du et al (6,088,346)**.

As to claim 3, Dyer reference teaches all of that which is discussed above with

regards to claim 2, and further teaches the step of "processing the given packet for

transmission from at least one multi-modulator, but fails to explicitly teach copying the

given packet when the given packet is a multicast packet".

However, **Du** reference, discloses that when a multicast connection is required of

a cell (packet), the packet is copied in accordance with the number of connections

defined by the multicast connection and written into a respective buffer memory (col. 11,

lines 19-22). Furthermore, the claimed step of "providing each modulator identified by

the modulator identifier with a copy of the given packet, where each copy has a

common output PID value associated therewith" is met inherently by the fact that the

packet is a copy, therefore indicating that it would have the same PID and the fact that

the Dyer reference teaches providing the packets to the modulators based on the routing table, which determines the modulator assigned to each individual modems.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to copy the packets that are multicast packets, in order to allow multicasting over multiple modulators.

As to claim 4, Dyer further discloses where the processing includes encrypting the given packet (col.3, lines 13-25 and col.9, line 26-col.10, line 12).

As to claim 5, Dyer teaches all of that which is discussed above with regards to claim 3, and further teaches RSM includes a server, buffers, etc., (figs.1, 2, 6 and col.9, lines 26-65, col.11, line 43-53 and col.16, lines 32-63), but fail to explicitly teach, "storing in a buffer of a plurality of buffers each identified packet having a modulator identifier associated therewith".

However, Du discloses the use of a buffer for storing multicast packets before transmission (col.11, lines 14-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use buffer memories for storing packets, in order to modify the packets and transmit accordingly.

As to claim 6, Dyer further teaches all of that which is discussed above with regards to claim 5, but fail explicitly teach first buffer of the plurality of the buffers is a multicast buffer for storing multicast packets, and wherein a second buffer of the plurality of the buffers is a unicast buffer for storing unicast packets.

However, Du further discloses the use a buffer for storing unicast packets and a buffer for storing multicast packets before transmission (col. 11, lines 14-25).

Therefore it would have been obvious to one of ordinary skill in the ad at the time of the invention to use buffer memories for storing packets, in order to modify the packets and transmit the packets accordingly.

As to claim 7, Dyer further teaches receiving a message indicating that a particular modulator of the plurality of modulators is ready to receive a packet for transmission and sending the given packet from a given buffer of the plurality of buffers to the particular modulator, where the modulator identifier associated with the given packet identifies the particular modulator (col.9, line 26-col.10, line 25 and line 54+).

As to claim 8, Dyer fails to explicitly teach, a plurality of buffers include a plurality of unicast buffers, each unicast buffer is associated with a given modulator of the plurality of modulators and is adapted to store unicast packets that are for transmission from the given modulator associated with the unicast buffer, and the plurality of buffers includes a multicast buffer for storing multicast packets therein.

However, Du further discloses a buffer for storing unicast packets and a buffer for storing multicast packets before transmission (col.11, lines 14-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use buffer memories for storing packets, in order to modify the packets transmit the packets accordingly.

As to claim 9, Dyer teaches all of that which is discussed above with regards to claim 8, but fails to explicitly teach determining whether to check the unicast buffer

associated with the particular modulator for a unicast packet for transmission from the

particular modulator or to check the multicast buffer for a multicast packet, responsive to

determining to check the associated unicast buffer, retrieving from the associated

unicast buffer the given packet when there is a unicast packet stored therein, and

responsive to determining to check the multicast buffer, determining whether a packet

stored in the multicast buffer is for transmission from the particular modulator and

retrieving the given packet from the multicast buffer when the given packet is

determined to be for transmission from the particular port.

However, Du further discloses a buffer for storing unicast packets and a buffer for

storing multicast packets before transmission (col.11, lines 14-25).

Therefore it would have been obvious to one of ordinary skill in the ad at the time

of the invention to use buffer memories for storing packets, in order to modify the

packets and transmit accordingly.

As to claim 10, Dyer further teaches associating a count register of a plurality of

count registers with each modulator of the plurality of modulators, incrementing the

count register associated with the particular modulator indicated by the message, and

when a packet is retrieved, decrementing each count register associated with a

modulator identified by the modulator identifier associated with the retrieved given

packet (col.9, line 26-col.10, line 25).

As to claim 11, Dyer teaches all of that which is discussed above with regards to

claim 10, but fails to explicitly teach unicast buffer is a first-in-first-out buffer, and when

the given packet is retrieved from the given unicast buffer the given packet is the current

first-in packet, and wherein when the given packet is retrieved from the multicast buffer

the given packet is determined at least in part by the current status of the plurality of

count registers and at least in part by the modulator identifier associated with the given

packet.

However, Du further discloses buffers for unicast and multicast transmission and

also proposes that newly entered packets overwrite any available packets (col.11, lines

50-51), indicating that the buffer functions as a first-in-first-out (FIFO) buffer, as is

common in buffer technology.

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use FIFO buffers, in order to sequentially process data for the unicast

and multicast buffers.

As to claims 12-13, Dyer fails to explicitly teach the determination for checking

the multicast buffer or the associated unicast buffer is based at least in part on the

current status of the multicast buffer and the associated unicast buffer or the

determination for checking the multicast buffer or the associated unicast buffer is based

at least in pad on prior determinations.

However, Du further discloses a buffer for storing unicast packets and a buffer for

storing multicast packets before transmission (col.11, lines 14-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use buffer memories for storing packets, in order to modify the

packets and transmits the packets accordingly.

Claims 25-35 are met as previously discussed with respect to claims 3-13.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-55 have been considered but are moot in view of the new ground(s) of rejection discussed above. This office action is non-final.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Smyth et al (6,598,229) disclose system and method for detecting and correcting defective transmission channel.

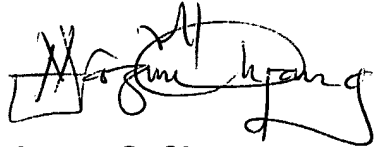Adams (6,378,130) discloses media server interconnect architecture.

Safadi (5,847,751) discloses CATV communication system remote hub for distribution of digital, analog, broadcast and interactive communication

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q. Shang** whose telephone number is **571-272-7355**. The examiner can normally be reached on **700am-400pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Christopher S. Kelley** can be reached on **571-272-7331**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300.**

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the **Electronic
Business Center (EBC) at 866-217-9197 (toll-free)**. If you would like assistance from
a **USPTO Customer Service Representative** or access to the automated information
system, **call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.**

Annan Q. Shang